

ABSTRACT

A circuit for determining temperature of an active semiconductor device disposed on a semiconductor substrate and a Wheatstone bridge circuit. The bridge has in each of four branches thereof a thermal sensitive device, one pair of such thermal sensitive devices being in thermal contact with an electrode of the active device. Another pair of such thermal sensitive devices is in thermal contact with the substrate. The thermal sensitive devices are resistors. The active device is a transistor. A tuning circuit is coupled to an output of the transistor, such tuning circuit having a tunable element controlled by a control signal fed to such tunable element. A processor is responsive to a voltage produced at an output of the Wheatstone bridge circuit and a signal representative of power fed to the transistor. The output provided by the Wheatstone bridge provides a measure of a temperature difference between the temperature of the transistor and ambient temperature.